

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (currently amended) A method for a ~~service provider on a private network to provide a service for an external client on an external network to access a service provider on a private network~~ via a gateway bridging the private and external networks, ~~including the service provider carrying out the steps of the service provider having a virtual name that is bound by a first binding to the address of the gateway on the external network and by a second binding to the address of the service provider on the private network, the method comprising upon the client using the virtual name to access the service provider:~~

- ~~—— allocating a virtual name to the service provider;~~
- ~~—— making the virtual name available to a client on the external network;~~
- ~~—— binding the virtual name to the routing address of the gateway on the external network; and~~
- ~~—— binding the virtual name to the routing address of the service provider on the private network~~

using the first binding to enable the client to contact the gateway and thereby setting up a first session between the client and the gateway; and

using the second binding to enable the gateway to contact the service provider and thereby setting up a second session between the client and the service provider, the second session being nested in the first session between the client and gateway such that second-session data is encapsulated in first-session data and is forwarded by the gateway between the client and service provider.

2. (currently amended) A method as claimed in claim 1 in which the first and second bindings are held on ~~virtual name is bound to the routing address of the gateway and the routing address of the service provider by way of an external domain name server and a private domain name server, respectively.~~

3. (currently amended) A method as claimed in claim 1 in which the first binding is held on an external domain name server, and the second binding comprises a first part held by an internal naming service of the gateway and mapping the virtual name to a real name of the service provider, and a second part held by the external domain name server and mapping the real name of the

~~service provider to its address on the private network virtual name is bound to the routing address of the service provider on an internal naming service.~~

4. (original) A method as claimed in any preceding claim in which the external network includes the internet.

5. (cancelled)

6. (currently amended) A method as claimed in claim 1 ~~[[5]]~~ in which the first and second sessions are both secure sessions with their data being ~~messages communicated between the client and the service provider~~ are encrypted.

7. (currently amended) A method as claimed in claim 1 in which the client is on a second private ~~internal~~ network distinct from the private ~~internal~~ network of the service provider, and a second gateway bridges the second private ~~internal~~ network and external network, and the client has a second virtual name that is bound by a third binding to the address of the second gateway on the external network and by a fourth binding to the address of the client on the second private network ~~the method including the steps of:~~

~~—— allocating a second virtual name to the client;~~
~~—— making the second virtual name available to the service provider;~~
~~—— binding the second virtual name to the routing address of the second gateway on the external network; and~~
~~—— binding the second virtual name to the routing address of the client on the second internal network.~~

8. (currently amended) A method as claimed in claim 1 in which ~~there is~~ a second service provider on the a second private network is able to communicate with an external network via a second gateway bridging the second private network and the external network, and the second service provider has a second virtual name that is bound by a third binding to the address of the second gateway on the external network and by a fourth binding to the address of the second service provider on the second private network

~~including the steps of:~~

~~—— allocating a second virtual name to the second service provider;~~
~~—— making the second virtual name available to a client;~~
~~—— binding the second virtual name to the routing address of the second gateway on the external network; and~~

~~— binding the second virtual name to the routing address of
the second service provider on the second private network.~~

9. (currently amended) A method as claimed in claim 1, in which the external network includes a further private network containing the private network of the service provider and there is a further gateway bridging the further private network to the portion of the external network which is external to the further private network, and wherein the ~~method including the additional steps of:~~

~~binding the~~ virtual name is bound by a third binding to a routing address of the further gateway on the portion of the external network which is external to the further private network.

10. (currently amended) A method of providing access to a server on a private network from an external client on an external network via a gateway bridging the private and external networks, the gateway supporting tunnelling of second messages to said server by encapsulating them in first messages routed to the gateway~~[[;]]~~, the method comprising involving:

~~(a)~~ allocating a virtual name to the server and mapping it by a first mapping to the routing address of the gateway on the

external network and by a second mapping to the routing address of the server on the private network;

~~(b)~~— at said external client, using the virtual name to address a said first message and a said second message, the former encapsulating the latter;

~~(e)~~— using the first mapping to route the first message, with its encapsulated second message, to the gateway; and

~~(d)~~— using the second mapping to route the second message extracted at the gateway from the first message, to the server.

11. (original) A method as claimed in claim 10 in which said first messages are encrypted.